



1 JULY 2019

## PROSPECTIVE RESOURCE ESTIMATE UPDATE – 9.25 TCF

### Highlights

- Total Prospective Resource of 9.25 Tcf + 294 million barrels# of conventional gas / condensate (gross mean unrisks) across SG 4571 in Mzarabani and Msasa prospects
- Mzarabani Prospect estimated to contain 8.2 Tcf + 250 million barrels# of conventional gas / condensate (gross mean unrisks) across 5 horizons
- Additional Msasa Prospect identified in SG 4571 estimated to contain 1.05 Tcf + 44 million barrels# of conventional gas / condensate (gross mean unrisks) across 3 horizons
- Resource potential determined by leading petroleum consultancy Getech Group plc for SG 4571 permit from 12-month study of Cabora Bassa Project

Invictus Energy Limited ("Invictus" or "the Company"), is pleased to announce the findings of an Independent Report completed by Getech Group plc (Getech) estimating substantial resource potential at its Cabora Bassa Project, located in the Company's 80% owned and operated SG 4571 Permit in Zimbabwe. A summary of the report's findings for the mapped prospects within the SG 4571 Permit area from Getech as at 26 June 2019 is tabulated below:

SG 4571		Gross Unrisks Estimated Prospective Resources#							
		Source: Getech Group plc as at 26 June 2019							
Cabora Bassa Project		Gas (Bcf) – 100% Gross				Condensate (mmbbl) – 100% Gross			
Prospect	Stratigraphic Level	Low	Best	High	Mean	Low	Best	High	Mean
Mzarabani	Dande	51	230	950	411	-	-	-	-
	Forest	301	1,215	3,359	1,584	-	-	-	-
	Pebbly Arkose	271	1,037	2,973	1,404	7	38	136	60
	Upper Angwa	721	2,902	9,657	4,414	18	107	434	187
	Lower Angwa	95	317	775	391	0	2	6	3
	<b>Total*</b>		<b>1,439</b>	<b>5,701</b>	<b>17,714</b>	<b>8,204</b>	<b>26</b>	<b>147</b>	<b>576</b>
Msasa	Pebbly Arkose	49	93	156	99	1	4	8	4
	Upper Angwa	107	198	327	210	2	8	17	9
	Lower Angwa	71	351	1,738	743	2	13	74	31
	<b>Total*</b>	<b>228</b>	<b>642</b>	<b>2,221</b>	<b>1,052</b>	<b>5</b>	<b>24</b>	<b>99</b>	<b>44</b>
SG 4571 Licence	<b>Total* Gross (100%)</b>	<b>1,666</b>	<b>6,343</b>	<b>19,935</b>	<b>9,256</b>	<b>31</b>	<b>171</b>	<b>676</b>	<b>294</b>
SG 4571 Licence	<b>Total* Net IVZ (80%)</b>	<b>1,333</b>	<b>5,074</b>	<b>15,948</b>	<b>7,405</b>	<b>25</b>	<b>137</b>	<b>541</b>	<b>235</b>

Table 1: SG4571 Licence Area Prospective Resource Estimate Summary - Getech Group plc. (\*Note: Total figures are the arithmetic sum of the individual horizons for each respective prospect)

**#Cautionary Statement:** The estimated quantities of petroleum that may be potentially recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation are required to determine the existence of a significant quantity of potentially movable hydrocarbons. Prospective Resource assessments in this release were estimated using probabilistic methods in accordance with SPE-PRMS standards.



**Invictus Managing Director Scott Macmillan commented:**

"The Mzarabani Prospect has grown significantly in its scale and represents one of the largest conventional exploration targets globally. The Independent Report by Getech has estimated the net mean recoverable conventional potential of the massive stacked Mzarabani prospect of 1.3 billion boe (barrels of oil equivalent) consisting of 6.5 Tcf and 200 million barrels of condensate net to Invictus. The estimate for the primary Upper Angwa target within the Mzarabani Prospect has increased to 4.4 Tcf + 187 million barrels of conventional gas-condensate on a gross mean unrisks basis. In addition, the newly identified Msasa Prospect, a new substantial structural prospect within SG 4571 which is also a stacked anticline feature, is estimated to contain 1.05 Tcf and 44 million barrels of conventional gas-condensate on a total gross mean unrisks basis. Figure 1 (below) & Figure 2 (page 3) shows the locations of the Company's prospects and leads currently mapped within SG 4571."

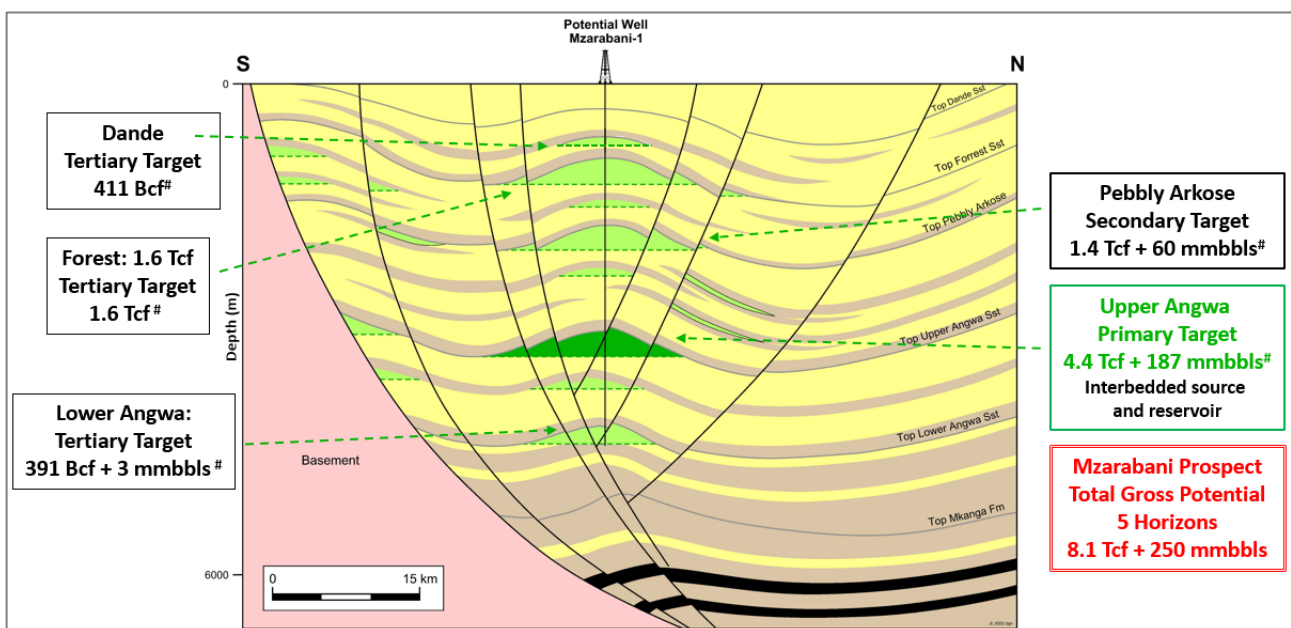


Figure 1: Mzarabani Prospect Cross Section Schematic – Preliminary interpretation only and subject to change

#See Cautionary Statement on Page 1 and Notes on Page 4 relating to Prospective Resources

"This updated estimate is the culmination of the excellent work from the Invictus and Getech technical teams over the last 12 months to deliver this result. The substantial work undertaken to integrate the geological and basin modelling studies with the reprocessed and interpreted gravity, magnetic and seismic datasets has enabled us to characterise the subsurface in more detail and identify and quantify the additional prospectivity. This has not only materially enhanced the value of our acreage, but also de-risked it. Invictus has benefited from Getech's expertise and knowledge as well as the application of their proprietary geoscience data, analytical workflows and "Globe" knowledge-base to significantly enhance our understanding of the petroleum system in the Cabora Bassa Basin."

### Farmout Process – Appointment of ENVOI

The Company has engaged UK based ENVOI, a leading Acquisition and Divestiture (A&D) adviser for the international upstream oil and gas industry, to run the farmout process for SG 4571. The Company has received significant industry interest ahead of the data room opening and is currently executing confidentiality agreements with several parties.

Please see <http://envoi.co.uk/> for further information on ENVOI.



## Environmental Impact Assessment (EIA) Commenced

The Company has engaged the Scientific and Industrial Research and Development Centre (SIRDC) to conduct an Environmental Impact Assessment (EIA) of SG 4571. The commencement of the EIA aims to ensure all necessary pre-drilling permits and activities are completed well ahead of schedule.

SIRDC has experience in carrying out EIAs of developmental projects in fields such as agriculture, mining, energy generation and construction projects.

Please see <https://www.sirdc.ac.zw/> for further information on SIRDC.

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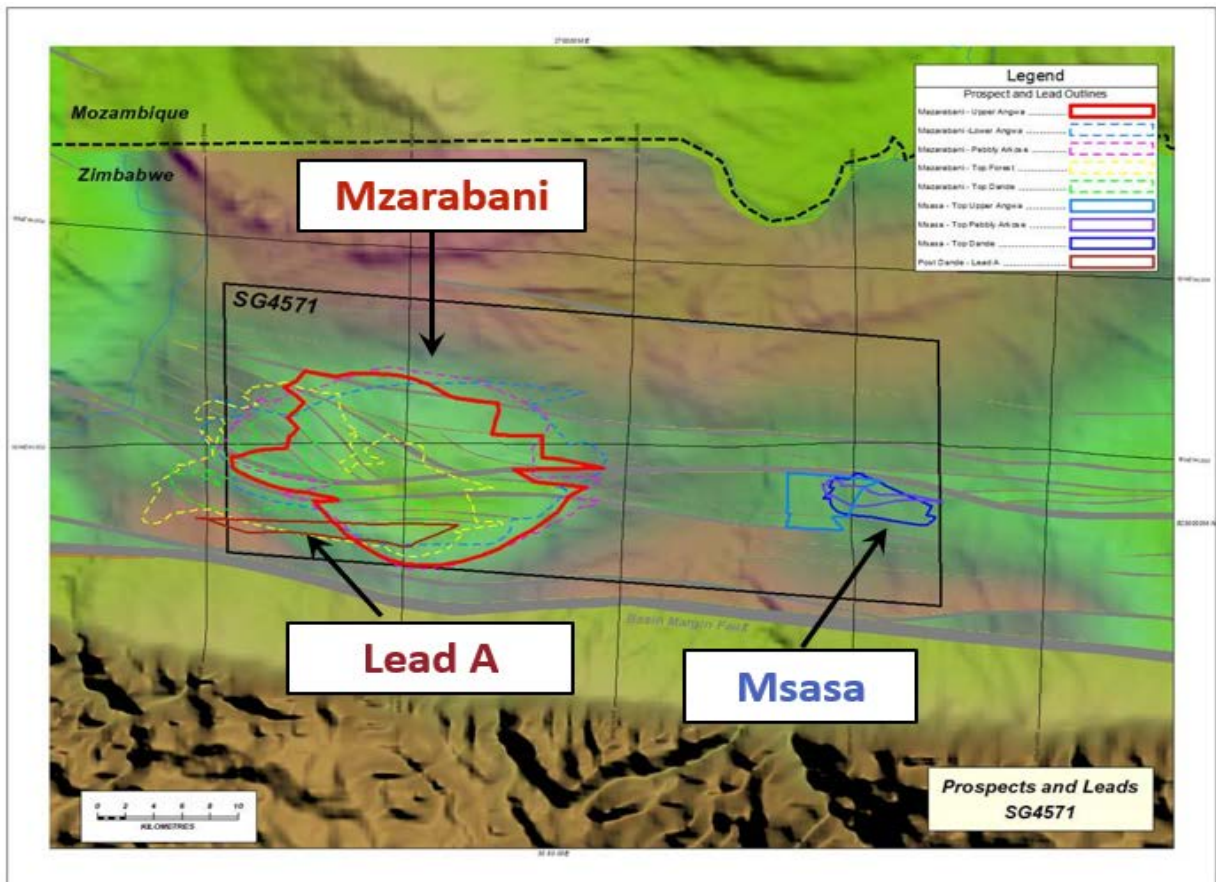


Figure 2 - SG 4571 Prospects and Leads Map

For further information, please contact:

Scott Macmillan  
Managing Director  
P + 61 (08) 6102 5055  
[info@invictusenergy.com](mailto:info@invictusenergy.com)

Corporate Advisor  
Ashanti Capital  
P +61 (08) 6169 2668



Corporate Advisor and Lead Manager

For further information on Invictus Energy, please visit the Company's website at [www.invictusenergy.com](http://www.invictusenergy.com)



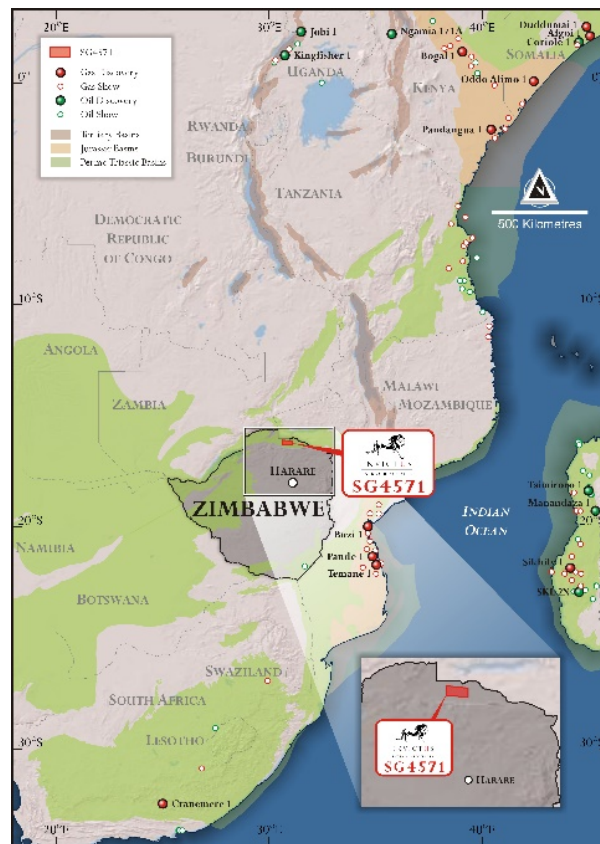
## About Getech

Getech is a leading AIM-listed supplier of geoscience and geospatial products and services to companies and governments, which they use to de-risk exploration programmes and improve their management of natural resources. Getech has extensive experience in Africa and globally.

Please see <https://getech.com> for further information on Getech.

## About the Cabora Bassa Project

The Cabora Bassa Project encompasses the Mzarabani Prospect, a multi-TCF and liquids rich conventional gas-condensate target, which is potentially the largest, undrilled seismically defined structure onshore Africa. The prospect is defined by a robust dataset acquired by Mobil in the early 1990s that includes seismic, gravity, aeromagnetic and geochemical data.



**\*Cautionary Statement:** The estimated quantities of petroleum that may be potentially recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation are required to determine the existence of a significant quantity of potentially movable hydrocarbons. Prospective Resource assessments in this release were estimated using probabilistic methods in accordance with SPE-PRMS standards.

The Company is not aware of any new information and that all material assumptions and technical parameters underpinning prospective resource estimate continue to apply and have not materially changed

**\*Giant fields** are conventional oil or gas fields with a recoverable reserve of 500 MMboe or more as defined by the American Association of Petroleum Geologists (AAPG)

**\*Elephant fields** are conventional oil or gas fields with a recoverable reserve of 1 Billion boe (1,000 MMboe) or more as defined by the American Association of Petroleum Geologists (AAPG)

**SG 4571** - Special Grant Permit 4571 was granted in August 2017, the first 18-month work programme has been completed. Invictus has an 80% equity stake in SG4571 via its subsidiary Geo Associates (Private) Limited



## Notes

1. The estimated quantities of Prospective Resources stated above may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.
2. The recoverable hydrocarbon volume estimates prepared by Getech Group plc (Getech) and the Company and stated in the tables above have been prepared in accordance with the definitions and guidelines set forth in the Petroleum Resources Management System, 2018, approved by the Society of Petroleum Engineers.
3. The Prospective resource estimates have been estimated using probabilistic methods using best estimates of all parameters. The gross / 100% basis refers to the total resource.
4. The barrel of oil equivalent (BOE) is a unit of energy based on the approximate energy released by burning one barrel (42 U.S. gallons or 158.9873 litres) of crude. One BOE is roughly equivalent to 5,800 cubic feet (164 cubic meters) of typical natural gas, which is the conversion used in this analysis to calculate the BOE for the gas volumes. The value is necessarily approximate as various grades of oil and gas have slightly different heating values.
5. The Best Estimates reported represent that there is a 50% probability that the actual resource volume will be in excess of the amounts reported. # Refer to cautionary statement above
6. The estimates for unrisks Prospective Resources have not been adjusted for both an associated chance of discovery and a chance of development. The Company estimates the chance of discovery from the primary Upper Angwa target in the Mzarabani Prospect at 11%. The secondary Pebbly Arkose target has an estimated chance of success of 7%. The Dande, Forest and Lower Angwa have an estimated chance of success of 5% within the Mzarabani Prospect. The Msasa prospect has an estimated chance of success of 5-6% for all stratigraphic levels. The estimated chance of success for these prospects is commensurate with undrilled frontier basins prior to any discoveries of hydrocarbons.
7. The chance of development is estimated at greater than 50%. The chance of development is the chance that once discovered, an accumulation will be commercially developed. The sheer size of the Mzarabani Prospect which is located onshore and in reasonable proximity to existing and future infrastructure increases the chance of bringing future discoveries to commercial development. The Company has also signed a Gas Sale MOU on 7 May 2019 with Sable Chemical Industries Limited for up to 70 mmscf/d for a 20 year period for a Maximum Contract Quantity of 510 Bcf in the event of a commercial discovery. This would likely underpin the development of any commercial discovery.
8. Prospective Resources means those quantities of petroleum which are estimated, as of a given date to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development.
9. Prospective Resource estimate prepared by Getech have relied upon the integration of Invictus' current technical data and interpretation as well as a compilation of the previous licence operator Mobil, 3<sup>rd</sup> party and other historical reports. The technical data included the newly reprocessed 2D seismic data set which was completed in early 2019 as well as reprocessed gravity and magnetic datasets by Getech, basin modelling, regional tectonics and paleogeography.

## Data Sources

To complete Getech's evaluation of the potential hydrocarbon resources in SG 4571, Invictus allowed Getech complete and open access to the current technical data and interpretation as well as a compilation of Mobil's data and public data. The technical data included several compilations of field studies and progress reports by Invictus and Mobil. All uninterpreted original 2-D seismic lines covering the prospect and Invictus' and Mobil's previous interpretations were available in an IHS Inc. Kingdom project which were evaluated at Getech's London and Leeds offices in the U.K.



The reprocessed 2D seismic dataset has resulted in improved imaging of the subsurface in the Cabora Bassa Basin and significant improvement in the reflector continuity and sharper definition of the fault geometries. The seismic data was depth converted utilising the stacking velocities and generating Vav from Dix Converted Vrms. Outcrop and gravity and magnetic data was utilised to constrain fault interpretation. Gravity modelling was also used to constrain the depth to basement to assist with the seismic interpretation and basin modelling.

### Geology & Evaluation

The Cabora Bassa Basin started as a low relief sag basin filling with Palaeozoic glacial deposits. The first four Mesozoic rift phases occurred during the Permo-Triassic with the break-up of Gondwanaland and deposition of the Karoo sequence. The primary reservoir objective in the Mzarabani Prospect is the Upper Angwa (Alternations Member) sands. The Upper Angwa sequence was deposited during the Early Triassic in alluvial, fluvial and possibly lacustrine depositional environments. The basin predominantly consists of sand rich terrestrial Mesozoic deposits. Additional reservoir objectives are stacked in the Mzarabani anticline and include the Lower Angwa braided stream sandstones and the overlying, younger aeolian Pebbly Arkose, Forest and Dande sandstones. No marine sediments have been identified in the basin. Pulses of reservoir deposition coincide with episodic rift rejuvenation and an overall absence of fine-grained sealing intervals. Fluvial overbank and local lacustrine clay rich deposits in the Upper Angwa formation are interpreted to provide the most effective seals.

The trap at Mzarabani Prospect consists of a very large four-way closure (~200km<sup>2</sup>) at the crest of a doubly plunging anticline. Potentially one of the largest undrilled structural traps in continental Africa, the timing of the initial folding is uncertain and may have started as early as the Middle Triassic. However, most interpreters agree, that major growth of the Mzarabani anticline occurred later during Middle Cretaceous uplift compression and uplift associated strike-slip movement. Readjustment following Middle Cretaceous uplift caused the anticline to collapse, resulting in a series of closely spaced extensional faults forming a complex array of crestal fault blocks. From Late Cretaceous to present, the area has remained a passive high undergoing erosion and only minor deposition. The anticline is elongated, and structural closure can be mapped at Mesozoic levels: Top Kondo Pools, Top Mkanga, Top Lower Angwa, Top Upper Angwa, Top Pebbly Arkose, Top Forest and Dande.

Getech independently estimated P90 and P10 Gross Rock Volume (GRV) distributions for each stratigraphic interval in the Mzarabani and Msasa Prospect based on Getech's interpretation of reprocessed seismic data, Net to Gross from interpretation of published field data, porosity from interpretation of published field data, hydrocarbon saturation and formation volume factors from NSAI September 2018 input parameters, degree of fill used to calculate column height from GRV. The inputs and distributions were put into REP (Logicom Resource Evaluation Program) to generate probabilistic P90, P50, P10 and mean estimate GIP volumes via Monte Carlo simulation. The Prospective Resource Estimates were generated through REP utilising a range of recovery factors and liquids yield appropriate for the respective stratigraphic reservoir type, depth and likely source rock interval and maturity and were also calculated via Monte Carlo simulation. The variance between the P10 and P90 volume estimates for the prospect is consistent with the geological uncertainties in the basin.

The Cabora Bassa Basin is relatively unexplored and therefore has inherent uncertainty regarding the presence of a working hydrocarbon system. The presence of a large trap has been demonstrated and reservoirs have been identified through surface outcrop studies. The primary geological risks to hydrocarbon discovery are the presence and effectiveness of a seal and timing of hydrocarbon expulsion relative to trap formation. Based on the methodology of Otis and Schneidermann, the Mzarabani and Msasa Prospects can be categorised as very high risk.



#### Abbreviations

**mmbbls** – millions of barrels of oil or condensate  
**mmboe** – millions of barrels of oil equivalent  
**scf** – standard cubic foot  
**mmscf** – thousands of standard cubic feet  
**mmscf** – millions of standard cubic feet  
**mmscf/d** – millions of standard cubic feet per day  
**Bcf** – billion standard cubic feet  
**Tcf** – trillion standard cubic feet  
**PRMS** – Petroleum Resource Management System  
**SPE** – Society of Petroleum Engineers  
**SG** – Special Grant

#### Conversions

1 BOE = 5,800 scf natural gas  
1 mmboe = 5.6 Bcf  
1 Tcf = 1,000 Bcf  
1 mmscf/d = 1.06 TJ/d  
1 Bcf = 1.06 PJ

#### Disclaimer

**\*Cautionary Statement for Prospective Resource Estimates** - With respect to the Prospective Resource estimates contained within this report, it should be noted that the estimated quantities of Petroleum that may potentially be recovered by the future application of a development project may relate to undiscovered accumulations. These estimates have an associated risk of discovery and risk of development. Further exploration and appraisal may be required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

**Hydrocarbon Resource Estimates** – The Prospective Resource estimates for Invictus' SG 4571 permit presented in this report are prepared as at 26 June 2019. The estimates have been prepared by the Company in accordance with the definitions and guidelines set forth in the Petroleum Resources Management System, 2018, approved by the Society of Petroleum Engineers and have been prepared using probabilistic methods. The Prospective Resource estimates are unrisks and have not been adjusted for both an associated chance of discovery and a chance of development.

**No New Information or Change in Assumptions** – Since the date of completion of this hydrocarbon resource study, the Company is not aware of any new information and that all material assumptions and technical parameters underpinning prospective resource estimate continue to apply and have not materially changed

**Competent Person Statement Information** – In this report information relating to hydrocarbon resource estimates has been compiled by Getech Group plc. under the supervision of Mr Scott Macmillan, the Invictus Energy Ltd Managing Director. Mr Macmillan has over 12 years' experience in the oil and gas industry in exploration, field development planning, reserves and resources assessment, reservoir simulation, commercial valuations and business development and is a member of the Society of Petroleum Engineers. Mr Macmillan consents to the inclusion of the information in this report relating to hydrocarbon Prospective Resources in the form and context in which it appears.

**Forward looking statements** – This document may include forward looking statements. Forward looking statements include, are not necessarily limited to, statements concerning Invictus' planned operation program and other statements that are not historic facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward looking statements. Although Invictus Energy Ltd believes its expectations reflected in these are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward-looking statements. The entity confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed.